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TITLE: Development of Tailored Intervention to Promote Breast Cancer Screening Among Immigrant Asian Women Residing in the U.S.

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14. ABSTRACT Breast cancer is the leading diagnosed cancer in Asian American women. American women are more likely to receive a diagnosis in the advanced stages of the disease, primarily because of late detection. The primary objective of the proposed project is to obtain a better understanding of those factors affecting breast cancer screening (BCS) practices among Asian women residing in southeastern Michigan. The preliminary findings from the focus groups meetings conducted in 40 women from Taiwan, Korea, Philippines and India showed that there are common and unique barriers toward BCS and these barriers are linked to their cultural background and health care received in their native countries. The information will be used to develop a culturally-sensitive instrument to measure BCS practices and correlates and administered to 188 Asian women. The results of this project contribute to the in-depth understanding of BCS utilization and factors affecting BCS practices in immigrant Asians.						
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Table of Contents

Cover.....	Page 1
SF 298.....	Page 2
Introduction.....	Page 4
Body.....	Page 5
Key Research Accomplishments.....	Page 17
Reportable Outcomes.....	Page 17
Conclusions.....	Page 18
References.....	Page 20
Appendices.....	Page 21
Supporting Data	Page 32

INTRODUCTION

Breast cancer is the leading diagnosed cancer in Asian American women. Although Asian American women have a lower reported breast cancer incidence rate compared with Caucasian and African American women, they are more likely to receive a diagnosis in the advanced stages of the disease, primarily because of late detection. Immigrant Asian women have unique needs in breast cancer screening (BCS) because of their socioeconomic and cultural backgrounds, which include language barriers, economic status, and other lifestyle issues. Understanding the cultural barriers to the receipt of BCS by Asian women and developing culturally appropriate programs to promote their use of BCS has become an urgent need in southeastern Michigan, where the Asian population has been growing rapidly. The primary objective of this proposed project is to investigate the utilization of breast cancer screening by immigrant Asian women and to identify psychological, social and cultural barriers that affect participation in breast cancer screening recommendations and continued adherence. At the end of this training and research program, it is expected that the award recipient will be ready to develop a proposal to design an evidence-based, tailored intervention program specifically targeted to increasing breast cancer screening practices among immigrant Asian women.

BODY OF REPORT

Cancer is the leading cause of death for Asian American women (Asian American Network for Cancer Awareness, Research and Training, 2002). Although Asian American women have a lower reported incidence rate of breast cancer (78 per 100,000) compared with white (116 per 100,000) and African American women (102 per 100,000), breast cancer remains the leading cancer diagnosed in Asian American women according to Surveillance, Epidemiology, and End Results (SEER) incidence rates, 1988-1992.^{3,4} When Asian women immigrate to the United States, their breast cancer incidence rates are six times greater than those of Asian women who remain in their native countries. In fact, the incidence rate of breast cancer for Asian American women has now approached those of white American women.⁵ When cancer incidence and mortality data were analyzed based on SEER data, while mortality from breast cancer for white and Hispanic women decreased during 1990-1995, it rose for Asian and Pacific Islander women.⁶ From a recent research report on breast cancer incidence rates among Asian American women, it was noted that the previously well-known low breast cancer risk in Asian American women in past decades is no longer true, so that breast cancer screening for Asian American women is as important as for white and African-American women.⁷

Although there are no known methods for preventing breast cancer, one of the most effective strategies for combating mortality is through early diagnosis resulting from appropriate screening modalities. Routine mammography can reduce breast cancer by 20 to 39 percent in women aged 50 to 74 years and by 17 percent in women aged 40 to 49 years.⁸ The efficacy of clinical breast examination also has been documented in the literature.^{9,10} There has been debate and inconsistency on the efficacy of breast self-examination (BSE) in the literature, nevertheless,

the American Cancer Society considers it to be a positive health behavior and recommends that women age 20 and over perform monthly BSE.

Despite the fact that breast cancer screening enhances early detection and diagnosis of breast cancer, which has been associated with a better survival rate, these screening tests have been underutilized in U.S. minority groups including Asian American women.^{11, 12} It is crucial in cancer control research to identify barriers to breast cancer screening specifically targeted to that ethnic group so that effective intervention programs can be developed and implemented to promote screening practices in this population. While health and cancer screening data were mostly focused on mortality and morbidity rates and the data were aggregated under Asian American and Pacific Islanders (AAPI), increasing awareness of factors affecting breast cancer screening among Asian American women is crucial to the delivery of appropriate and responsive health care.

Recently, there have been advances in behavioral research in terms of increasing adherence to recommendations for breast and cervix cancer screening. However, special populations including those of some racial and ethnic minorities, the socially disadvantaged, the disabled, new immigrants, and the elderly have displayed lower levels of participation in screening tests.^{1,2} Therefore, the proposed training program will be targeted to reducing health disparities related to breast cancer screening in immigrant Asian women. The overall objective of the proposed study is to obtain scientific and systematic understanding of breast cancer screening practices and its associated factors among Asian women residing in southeastern Michigan.

The following section of report will focus on the research accomplishments associated with each task outlined in the approved Statement of Work.

Statement of Work

Task 1. Develop a theoretical foundation in behavioral science and clinical assessment in breast cancer screening; refine research skills and abilities, including measurement, data analysis, conceptual model development in breast cancer research through mentorship and selected coursework. (Months 1-18).

Status: Accomplished.

1. The award recipient, Tsu-Yin met with two co-mentors, Drs. Yu and Northouse during the training period regularly to discuss the progress and revision of research project and will continue this activity throughout the grant cycle for continued feedback and suggestions from the two co-mentors.
2. Tsu-Yin participated in supervised research activities under Dr. Yu's Healthy Asian American Project (HAAP) at University of Michigan, Ann Arbor. This community-based research project aims to promote utilization of the Breast & Cervical Cancer Control & Prevention program for the underserved population of women. In this activity from May to September, 2004, Tsu-Yin was able to learn strategies to effectively interact with the community and address the special needs of Asian immigrant women.
3. Tsu-Yin participated in supervised research activities under Dr. Northouse's research project, FOCUS, a family-focused program of care for women with recurrent breast cancer and their families. The current FOCUS project focused on prostate cancer patients and their spouses. In this research activity (Sep-Dec. 2004), Tsu-Yin learned about how the intervention components were designed to address both the patient as well as family member/significant other's needs. In addition, Tsu-Yin was able to see how the five components (F for family involvement; O for optimism; C for coping; U for uncertainty reduction & S for symptom management) of the

program was carried out and various challenges and solutions in implementing a family intervention for cancer patients to improve their quality of life.

4. Tsu-Yin completed the research practicum I on the Health Media Lab at the University of Michigan (4 hours/week) with Dr. Strecher on his NIH, P50 center grant, University of Michigan Center for Health Communications Research (UMCHCR), and the purpose of this center is to develop an efficient, theory-driven model for generating tailored health behavior interventions that is generalizable across health behaviors and sociodemographic populations. The specific projects that Tsu-Yin participated in included Project 2, which focuses on promoting fruit and vegetable intake among African American adults and Project 3, which develops a decision aid to help women decide whether to undergo tamoxifen prophylaxis for breast cancer prevention. In these two projects, Tsu-Yin was able to learn the state of art technology and skills in behavioral science essential to the development, design, and implementation of a tailored intervention. The activity was carried out in Sep. 2004 and completed in Mar. 2005.

5. Tsu-Yin spent two weeks with Dr. Fran Lewis and her research team at the University of Washington in Jan. 2005 and completed the intensive research practicum III. In this research practicum, Tsu-Yin was able to meet the following objectives,

- a. Review the infrastructure [work, personnel, task responsibilities, meeting structures, data file structures, instrument files and records] for the conduct of an Randomized Clinical Trial (RCT) project
- b. Analyze current thinking/status of Tsu-Yin's research goal toward designing a behavioral intervention with Dr. Lewis

- c. Participate in a doctoral course NUR593-Preventive Therapeutics, and examine at least two theories of health behavior and their application to the development of a behavioral intervention
 - d. Analyze the processes by which a scientist moves from knowing a population to configuring the relevant elements of a behavioral intervention to behavioral change
6. Tsu-Yin has started the research practicum II in November 2004 with Dr. Victoria Champion from Indiana University (IU) and still is working with her on her recently funded five-year project from the National Institute of Nursing Research on comparing the effectiveness of computer (DVD/CD-Rom) and telephone tailored interventions. The research activity included bi-weekly teleconference phone calls with the research team members at IU and Duke University and a two day on-site research meeting at IU in Mar. 2005. In this practicum, Tsu-Yin participated in a research project with approximately 1,686 women who were randomly assigned to receive: (1) a mammography promotion intervention delivered via interactive computer program; (2) the intervention delivered via telephone; or (3) usual care. Computer and telephone interventions will be tailored to recipients' perceptions of susceptibility; benefits and barriers associated with mammography, and perceived self-efficacy for obtaining a mammogram. Tsu-Yin's active involvement was truly beneficial due to the hands-on experience of developing an instrument with study variables, constructing messages for targeted variables, and the implementation of a multi-site intervention.

Coursework: Tsu-Yin completed the following courses: 1) *Planning, Delivery, and Evaluation of Community Based Interventions for Behavioral and Social Change*, 2) *Cancer Epidemiology* and 3) *Multi-level Analysis of Survey Data*.

Other training components: conferences attendance

- 1) Tsu-Yin attended the annual Michigan Breast and Cervical Cancer Control Program Annual Meeting, May 21-21, 2004, May 12-13th 2005.
- 2) Tsu-Yin attended and presented at the Oncology Nursing Society 30th Annual Congress on Apr. 25-May 1st, 2005 in Orlando, Florida.

Task 2. Collect pilot data on cultural beliefs, knowledge and barriers toward breast cancer screening among immigrant Asian women (N= 188) in a Midwestern city and examine their relationships to breast cancer screening. (Months 1-18).

Status: Accomplished

1. Tsu-Yin refined the theoretical framework, research questions/hypotheses, research protocol and procedures design with co-mentors, Drs. Yu and Northouse throughout the first three months of the study.
2. The development of a study instrument was completed under two phases: 1) conducting focus groups (please refer to Appendix I for interview questions) with four ethnic groups of 40 women, i.e., Chinese/Taiwanese, Filipino, Korean and Asian Indian with 10 women in each group respectively. Each group consisted of 10 women aged 40 and older and from a variety of immigrant and social-economic backgrounds. 2) modifying and revising a previously developed questionnaire on breast cancer screening in Chinese women and incorporating focus group findings to achieve cultural relevancy and appropriateness for other groups of Asian women. The focus groups were completed in Apr. 2005 and the questionnaire was developed in English and translated into four languages, Chinese, Tagalog, Korean and Hindi with the standard back translation technique.
3. Institutional IRB approval of the study protocol was obtained and renewed in Jan. 2006 (Expiration 9/7/2006) from the University of Michigan. In addition, additional approval (of

study protocol, consent forms and recruitment materials) was secured from the Human Subjects Research Review Board at the U.S. Army Medical Research and Materiel Command in Jan. 2006.

4. Participant Recruitment and Data Collection: One hundred and eighty-eight Asian women were successfully recruited from variety of channels and events and filled out self-administered questionnaires. Several innovative strategies were used to recruit eligible women to participate in the current study: (1) collaboration with the local community, ethnic social groups, professional organizations and religious associations to distribute information to their members; (2) collaboration with ethnic student associations at the universities to help recruit their mothers and other relatives into the study; (3) posting flyers at local ethnic grocery stores, restaurants, and beauty salons; and (4) making presentations and volunteering in health fairs and ethnic celebrations. In addition, in order to be well connected to each ethnic community, two site coordinators (from the Philippines and India) were hired to facilitate community networking and participant recruitment. The participants received a package that included a cover letter explaining the study, a Consent Form, and the survey, and were asked to return the completed consent form with the survey. The survey took 20-30 minutes to complete and participants can select the questionnaire in English or their native language. Interestingly, more than 85% of participants in each group selected the English version. Participants received a \$10 gift certificate for their time and efforts.

5. Data Management. Data were entered into SPSS and verified by double-entry with trained research assistant. The Statistical Package for the Social Sciences (SPSS, version 13.0 for Windows; Chicago, IL) was used to analyze data. Frequency distributions were assessed for all

analysis items, and inaccurate codes were identified and corrected. Descriptive statistics, such as means, standard deviations, and percentages, were computed for all demographic variables.

6. Preliminary Findings. The following part of results was prepared based on the sub-groups of Asian Indian and Filipino women. The results were prepared in a manuscript, "Mammography Stages of Adoption and Decision Balance among Asian Indian and Filipino American Women," and are currently under reviewed by *Cancer Nursing*.

Sample Characteristics The age of the participants ranged from 40 to 81 years with a mean of 55.0 (S.D. = 9.6). Seventy-five percent were married. Nineteen percent of the subjects ($n = 44$) reported a family history of breast cancer. Years of education ranged from 4 to 27 years with an average of 15 years. Collectively, the sample had high educational attainment, with 84% of participants having a college/university education or higher. The length of time that the women had resided in the U.S. ranged from 1 to 49 years ($M = 21.8$, $SD = 10.6$). Ninety-two percent owned health insurance and 83% reported that their insurance covered mammograms.

Reliability. The Cronbach's alpha coefficients for the pros (benefits) and cons (barriers) subscales were 0.86 and 0.91, respectively. The Cronbach's alphas for the three factors of cons (barriers) were also above 0.70 (Table 2). All corrected item-total correlations for both the pros (benefits) and cons (barriers) subscales were above .30, and the values were not increased by more than .010 in Cronbach's alpha if any of the items were deleted.

Exploratory Factor Analysis (EFA). Principal component analysis was performed examining the associations among the decision balance items, and the varimax algorithm was used for factor rotation. This analysis generated four factors with eigenvalues greater than 1 with one factor (Factor 1) representing positive aspects of mammography and three factors (Factor 2-4) representing negative aspects. Factor 1 (five items) was determined to represent the "pros"

dimension, which highlights positive perceptions of mammography. This first factor had a rotated eigenvalue of 3.60, and explained 17% of the variance in the decision balance items. Factor 2 had a rotated eigenvalue of 4.61, and explained the highest portion of the variance (22%). The seven items loading onto this factor consisted of logistic barriers of mammography, such as transportation, inconvenient hours, language barrier, etc. Factor 3 had a rotated eigenvalue of 3.35, and explained 16% of the variance in the items. The third factor had six items loading onto it, which described the negative feelings and aspects during the mammography procedure. Factor 4 had a rotated eigenvalue of 1.92, and explained 9% of the variance in the items. This factor had two items loading onto it, which addressed the lack of external cues for mammography, such as feeling OK or healthy and the lack of doctors' recommendation. Factors 2, 3 and 4 therefore appeared to address the "cons" dimensions, which highlight the negative aspects or obstacles of obtaining mammogram. The four factors together explained 64% of the variance in the decisional balance items. All of the items loading onto each factor had loadings of .50 and greater on each factor. The reliability of the pros subscale and the three cons subscales by Cronbach's alphas ranged from 0.75 to 0.91 (Table 1).

Confirmatory Factor Analysis (CFA). Structural equation modeling using the AMOS software program (version 4.0)¹³ was conducted in two steps: 1) conducting CFA based on a previously-tested factor structure with a priori model to examine if the factor structure can be applied in this sample of Asian women; 2) conducting CFA based on the factor structure from previous EFA results. Despite the fact that a previous study by Rakowski and colleagues²⁷ carried out CFA on a new dataset using a factor structure previously derived from an EFA, the decision was made to conduct CFA on the same data in the present study to verify if there is good fit between the empirical data and the EFA-derived factor structure.

Step 1. The a priori model was tested based on previously tested factor structure in a Chinese American sample¹⁵ which includes testing one-factor pros subscale and three factors representing cons subscales separately with different items loading on the three-factor cons subscale. The initial testing on the one-factor pros structure showed that the model did not fit the observed data well ($\chi^2/df = 7.8$; TLI=.97; RMSEA =.17, 90% C.I. = 0.17-0.40). An examination of the modification indices showed correlated errors on two sets of cons items, and subsequent testing was performed allowing items to have correlated errors. The results still did not indicate an acceptable fit based on the RMSEA statistic ($\chi^2/df = 2.9$, TLI=.99, RMSEA=.09; 90% C.I. = 0.05-0.14) (Figure 1). The initial testing on the three-factor cons structure also did not indicate a good fit to the data ($\chi^2/df = 3.5$; TLI=.96; RMSEA=.10, 90% C.I. = 0.09-0.12). Examination of the modification indices suggested correlated error on two pairs of items. Subsequent testing using the existing structure and allowing two errors to be correlated improved the fit slightly; however, RMSEA was still above .06 ($\chi^2/df = 2.6$, TLI=.98, RMSEA=.08; 90% C.I. = 0.07-0.10) (Figure 2).

Step 2. The EFA-derived four-factor model which represents both pros (one factor) and cons (three factors) was then tested, and the estimation of this model was based on all individual items loaded on their hypothesized latent factors. The results showed that the model fit the data relatively better ($\chi^2/df = 2.5$, TLI=.97, RMSEA=.08; 90% C.I. = 0.07-0.09) compared to the previous a priori models in the initial testing. Inspection of the modification indices suggested correlated errors on four pairs of cons items and two pair of pros items. After the content of these items was reviewed, the decision was made to allow the errors to be correlated and re-estimate the model. The fit indices including the RMSEA statistic showed that the refined model had a

much closer fit with the data and demonstrated a good fit ($\chi^2/\text{df} = 1.8$, TLI=.98, RMSEA=.06; 90% C.I. = 0.05-0.07) (Figure 3).

Decisional Balance by Stages of Adoption. The results of a one-way ANOVA for the decisional balance score indicated a strong association with stage of adoption ($F[4, 223]=8.22$, $p< 0.001$) in this sample (Table 2). Participants in the pre-contemplation and contemplation stages had the most negative mean decisional balance, and participants in the maintenance stage had the most positive mean decisional balance. Post-hoc tests performing multiple pairwise comparisons of the means for the five groups indicated that significant mean differences existed on the pairings of pre-contemplation and maintenance and contemplation and maintenance. In relation to the zero-point of pros and cons balance, all four stages (i.e., pre-contemplation, contemplation, relapse and action) had mean scores below zero, which demonstrated a tendency to have negative decisional balance.

Relationships of Stages of Adoption and Decisional Balance with Covariance Adjusted. In order to examine if the relationship between stage of change and decision balance still exists after controlling for the relationships of important covariates (i.e., age, education background, insurance coverage, and length of U.S. residence), ANCOVA was performed. Three covariates were used from Rakowski and colleague's (1993) study.¹⁶ In this study, it was hypothesized that the mammography decisional balance might be influenced by health system factors, such as insurance coverage, and social factors, such as education level. Age was included because prior studies have shown that older women are less likely to have regular mammography screening.¹⁶ Prior studies have also shown that immigrants who have been staying in the U.S. longer tended to have better access to health services and health education toward breast cancer screening. The results from the ANCOVA showed that education level, insurance coverage and length of U.S.

residence were not significantly related to decisional balance, while age reached borderline statistical significance ($p = .055$). Most importantly, when controlling for these covariates, there remained to be a significant main effect of stage on the individual's decisional balance scores ($p < .01$). In addition, four two-way interactions between stage and the covariates (stages \times education level, stages \times insurance coverage, stages \times U.S. residency and stages \times age) were tested, but no significant results were found.

Task 3. Based on empirical data of the pilot study, applying knowledge and technology developed throughout the program to develop strategies for a tailored intervention program in cancer screening as a base for the future program of research.

Current status: In progress.

Tsu-Yin is currently developing a grant proposal, "Individually-tailored intervention to promote mammography adherence among Chinese women" that responds to PA-06-351, Exploratory Grants for Behavioral Research in Cancer Control from National Institute of Health. The proposal has carefully incorporated the review of literature and empirical data from the DOD study during the design and development of the tailored intervention content. Tsu-Yin also initiated face-to-face and/or telephone meetings with consultants and mentors to discuss the specific aims, research questions/hypotheses, and research design of this grant proposal. Currently, the proposal is in preparation using the R21 mechanism and aims to be submitted to National Cancer Institute for funding.

KEY RESEARCH ACCOMPLISHMENTS

- ❖ The study is one of the first studies that tested the transtheoretical model (TTM) constructs, 1) pros/benefits and cons/barriers, 2) stages of change in Asian American women related to their mammography screening. The validated measures in pros/benefits and cons/barriers subscales can be used as the elements of decisional balance associated with stages of adoption for Asian immigrant women.
- ❖ The study results add to the growing literature that supports the relationship between the TTM constructs and mammography screening among Asian immigrant women. This study provided support on TTM hypothesized relationships that as stages of adoption proceeded from earlier stages to later ones, decisional balance would become more favorable.
- ❖ The specific beliefs (benefits and barriers) associated with the various stages of mammography adoption have important implications for health professionals in developing stage-matched interventions to motivate Asian women in adopting regular mammography.

REPORTABLE OUTCOMES

Manuscript written based on focus groups findings:

1. Wu, T.Y. & Bancroft, J.M. The perceptions and experiences of breast cancer screening for Filipino American Women. *Oncology Nursing Forum*. (in press). See to Appendix I.
2. Wu, T.Y. & West, W. Mammography stages of adoption and decision balance among Asian Indian and Filipino American women. Submitted to *Cancer Nursing* for Publication.

Abstracts

The abstract, “Reducing disparity in breast cancer screening for Asian women: Understanding Cultural barriers and their screening practices,” was presented to the Michigan Cancer

Consortium (MCC) Annual Conference, Lansing, Michigan, November 2005. See Appendix II.

The abstract, "Development of tailored intervention to promote breast cancer screening among Asian American women," was presented at the Era of Hope Meeting, Philadelphia, Pennsylvania, June 2005. . See Appendix III.

Funding applied and granted:

Project title: An Innovative Interdisciplinary Approach to Promote Breast Health among New Immigrant Women from Southeastern and Southern Asia. Funding agent: Susan G. Komen Breast Cancer Foundation, 2005 (funding amount: \$249,096).

Employment opportunities applied and offered: Faculty positions from San Diego State University and John Hopkins University were offered but not accepted.

CONCLUSION

This research award offers an excellent package to advanced nurses in an effort to be better equipped to conduct advanced clinical and empirical-based research projects in the area of breast cancer. The award recipient has benefited tremendously by the research experiences during the award period which included the opportunity to work with world-renown researchers and laboratories in behavioral science research and further apply the knowledge and skills in clinical research to enhance the understanding of human behaviors related to the early detection of cancer and to build the knowledge base for developing intervention research to increase adherence to recommended screening tests. The results from this DOD study yield in-depth information to understand the factors and mechanisms for promoting mammography screening

among Asian immigrant women. Many of these factors in subgroups of Asian women (e.g., Filipino and Asian Indian) were not systematically documented in prior published literature.

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APPENDICES

Appendix I: Page proof of manuscript, “The Perceptions and Experiences of Breast Cancer Screening for Filipino American Women.”

Appendix II: Abstract presented at the MCC conference.

Appendix II: Abstract presented at the Era of Hope conference.

Reducing disparity in breast cancer screening for Asian women: Understanding Cultural barriers and their screening practices

Cultural-appropriate strategies can be designed to promote cancer screening if the unique needs and characteristics of ethnic groups are identified. Most of the data available for Asian immigrants living in the U.S. has been aggregated under the Asian American/Pacific Islanders (AAPI) ethnic category. This study examined breast cancer-related practices and beliefs among three subgroups of Asian American women (47 Filipinos, 40 Chinese, and 38 Asian Indians; N= 125). A self-administered questionnaire assessed screening practices (i.e., breast self-exam, clinical breast exam, and mammography), related beliefs and knowledge. Results from two-way analyses of variance (ANOVAs) showed the strong influence of ethnicity on perceptions of susceptibility [$F(2, 95) = 5.11, p = .01$] and seriousness [$F(2, 99) = 4.85, p = .01$] related to breast cancer, in addition to an interaction detected between ethnicity and income in terms of perceived barriers [$F(5, 107) = 3.04, p = .01$]. The results also indicated that three common barriers were reported in all three ethnic groups, and three unique barriers were more frequently identified by Chinese (i.e., don't need mammogram if I feel OK [OR = 5.450, 95% CI = (1.643, 18.081)] and waiting time is too long [OR = 5.070, 95% CI = (1.674, 15.351)]) and Asian Indian women (i.e., don't know where to get a mammogram [OR = 9.237, 95% CI = (3.153, 27.059)]). Results can be used to develop interventions which are tailored to special characteristics of immigrant women from different Asian groups.

DEVELOPMENT OF TAILORED INTERVENTION TO PROMOTE BREAST CANCER SCREENING AMONG ASIAN AMERICAN WOMEN

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Breast cancer is the leading cancer diagnosed in Asian American women. Despite extensive efforts focused on promoting breast cancer screening, fewer Asian American women receive an annual clinical breast examination by their health care provider or a mammogram. As a result, a greater percentage of Asian American women are diagnosed with breast cancer when they have the more advanced stage of this disease, making it much more difficult to provide effective treatment. Those Asian women who have immigrated to the United States have breast cancer incidence rates that are six times higher than those for Asian women who remain in their native countries. Most alarming is that although breast cancer mortality rates decreased for white and Hispanic women from 1990 to 1995, mortality rates rose for Asian and Pacific Islander women during the same period. Thus, it is crucial to identify barriers to breast cancer screening for immigrant Asian women so that effective intervention programs can be developed and implemented to promote screening practices in this population. The goal of this project is to identify the factors, including cultural barriers, beliefs, and attitudes, that influence breast cancer screening practices by immigrant Asian women and to use this information to develop intervention strategies promoting breast cancer screening specifically targeted to the needs of this population. During the two-year project period, the Principal Investigator will use both qualitative and quantitative research methods to examine the experiences and unique needs of immigrant Asian women (age 40 and older) related their breast cancer screening. Specifically, focus groups will be conducted in four Asian women groups (Taiwanese, Filipino, Asian Indian and Korean) to understand in depth the underlying factors proposed to affect their breast screening practices. Next, the instrument will be developed based on the findings from focus group meetings and comprehensive literature review and administered to a sample of 188 women to systematically assess demographic factors, knowledge, needs, and cultural-specific beliefs that may affect receipt or non-receipt of breast cancer screening for immigrant Asian women. The relationships between the psychological, social, and cultural factors that are proposed to affect receipt of breast cancer screening tests (breast self-examination, clinical breast examination, and mammography) will be examined in this proposed study. The findings will provide crucial empirical evidence to the investigator that will be used to develop a tailored intervention to promote breast cancer screening in Asian American women. This issue is urgent because the Asian population is one of the fastest growing in the United States and is projected to reach 22 million in the year 2025. Therefore, their needs and behaviors related to receipt of breast health care services should to be carefully examined.

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Filipino American Women's Perceptions and Experiences With Breast Cancer Screening

Tsu-Yin Wu, PhD, RN, and Joanna Bancroft, BSN, RN

[Author: In the abstract and text, you sometimes refer to Filipino American women and sometimes to Filipino women. There is a difference, and we need to be consistent. I suspect you intend to use Filipino American throughout.]

Purpose/Objectives: To determine information about Filipino women's perceptions of breast cancer, the most frequently diagnosed cancer and number one killer of Asian American women, and their experiences with screening.

Design: A qualitative, exploratory approach with focus groups.

Setting: Suburban Filipino communities in the midwestern United States.

Sample: 11 Filipino women aged 45–80 years who shared their experiences with breast cancer screening.

Methods: Focus groups were conducted, and the meetings were recorded on audiotape, transcribed, and analyzed using constant comparison techniques.

Main Research Variables: [Author: Please provide.]

Findings: Avoidance was the main theme for Filipino women in dealing with a cancer diagnosis in the Filipino culture. Facilitators of Filipino women's screening practices were support from family members, recommendations from familiar physicians, health insurance reinforcement, and personal attributes of physical symptoms, family history, past diagnosis, and health literacy. Barriers identified were different mindsets and healthcare systems in the Philippines in regard to early detection, unpleasant experiences with mammography, cultural beliefs, and difficulties accessing services.

Conclusions: Results of the focus group discussions provide useful information about facilitators and barriers that affect Filipino women's screening practices.

Implications for Nursing: The findings of the study can be used to develop tailored interventions for addressing culturally specific barriers and promoting screening practices in the Filipino community.

Key Points . . .

- Cultural beliefs and attitudes affect women's experiences and decisions regarding cancer screening practices, yet most studies in Asian [Author: Asian American?] populations have used the quantitative approach, and sociocultural aspects of screening behaviors have been examined less frequently.
- Filipino women prefered having female and familiar health-care providers perform cancer screening. They also appreciated support from their significant others, which significantly motivated them to get screened regularly.
- Promoting awareness of breast cancer screening modalities that are recommended in the United States and low-cost and accessible mammogram services is critical for new Filipino immigrants.
- Healthcare providers should understand Filipino women's experiences and beliefs regarding breast cancer screening to reduce the disparities of breast cancer screening and promote early detection.

(Maxwell, Bastani, Vida, & Warda, 2003). The authors urged healthcare professionals who attempt to improve adherence to cancer screening in immigrant populations to consider culturally specific outreach methods.

The purpose of the current qualitative study was to explore views about breast cancer and screening practices from the perspective of Filipino women in the midwestern region of the United States. The findings of the study can provide a greater depth of information and potentially add to healthcare

Cultural beliefs and values about cancer and cancer screening shape and inform decisions about whether to engage in screening behaviors. To date, few qualitative studies have examined the cultural beliefs and values of Filipino Americans related to breast cancer screening practices. Previous survey-based studies have reported on use of and attitudes toward breast cancer screening among Filipino American women (Ko, Sadler, Ryujin, & Dong, 2003; Maxwell, Bastani, & Warda, 1997, 2000). The results of a randomized trial among Filipino American women indicated that screening rates for breast and cervical cancer did not differ between experimental and control groups at baseline and follow-up

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providers' knowledge and create a foundation for developing culturally sensitive interventions tailored for Filipino American women.

In the United States, breast cancer is the most frequently diagnosed cancer in women. Although the rates of breast cancer generally are lower in Asian Americans compared to Caucasian and African Americans, cancer has been the number one killer of Asian American women since 1980 (Jemal et al., 2004; National Center for Health Statistics, 1998), and the incidence rate in Asian Americans has increased 14% since 1988 (American Cancer Society, California Division and Public Health Institute, California Cancer Registry, 2005). In addition, a longer period of residency in the United States increases Asian Americans' risk of developing breast cancer, which eventually will approach the risk of the American-born population (Ziegler et al., 1996). More alarmingly, Asian Americans are the only racial group to have exhibited an overall increase in cancer mortality rates for all sites combined from 1990–1999 (Edwards et al., 2002).

The term *Asian American* represents a diverse population in the United States and often has been under the category *Asian American/Pacific Islander* in national data on breast cancer incidence and mortality. Miller et al. (1996) showed great variations in cancer incidence rates for specific ethnic groups and cleared away the myth that all Asian Americans have a low incidence of breast cancer. In fact, Surveillance Epidemiology and End Results released an important document on racial and ethnic patterns of cancer in the United States from 1988–1992, which showed that the [Author: incidence?] rates of Asian [Author: Asian American?] subgroups ranged from 28.5 per 100,000 in Korean Americans to 82.3 per 100,000 in Japanese Americans, with 73.1 per 100,000 for Filipino Americans (Miller et al., 1996). Other data from Los Angeles County, CA, showed that Filipino Americans had an age-adjusted incidence rate of 98.1 per 100,000 (Deapen, Liu, Perkins, Bernstein, & Ross, 2002).

In addition, Tu (1999) [Author: Tu et al.? Or is a reference missing?] found that breast cancer screening programs are less successful and underused by ethnic communities. Therefore, to develop effective interventions to reduce healthcare disparities among various ethnic groups, healthcare professionals must recognize the specific cultural beliefs and values and different health needs of each group. Filipino Americans are the second-largest Asian subgroup in the United States (Grieco & Cassidy, 2001), with higher levels of acculturation compared to other subgroups (Ko et al., 2003). Nevertheless, an integrative literature review on breast cancer screening practices in four ethnic [Author: ethnic American?] groups (Chinese, Korean, Filipino, and Asian Indian) indicated that **Filipino** women have been less studied and that sociocultural correlates were absent from the reviewed literature (Wu, Guthrie, & Bancroft, 2005). Further understanding of breast cancer screening practices among **Filipino** women may provide vital information about how to address their needs sensitively and effectively to promote regular screening.

Methods

Research Design

Focus group methodology was used to explore the shared meaning of breast cancer and experiences of breast cancer

screening among 11 Filipino American women. The method was chosen for data collection because the interaction of a group provides a social context for the development of each participant's ideas so participants will be able to stimulate and refine thoughts and perspectives (Krueger, 1988; Morgan, 1988; Owen, 2001). In addition, researchers are able to obtain data with greater depth than with individual interviews (Morgan & Kruegar [Author: Spelling? See reference.], 1994).

Groups were kept small, with fewer than five participants in each session (for a total of three sessions), to allow each woman to share her thoughts with an adequate amount of time. Each session, lasting about two hours, was held in a nonthreatening environment in which participants were able to exchange their views without being judged. The methods effectively gathered information about **Filipino** women's views about breast cancer and their current and past practices of breast cancer screening.

Participants

Inclusion criteria were that participants self-identify themselves as Filipino American, speak either English or Tagalog, and be aged 40 or older. Twelve women were recruited from the metropolitan area of southeastern Michigan through the assistance of community informants and word of mouth. One woman was excluded from the data analysis because she did not live in the United States. Efforts were made to ensure that the sample included a diverse representation in terms of age, education, occupation, and length of residency in the United States. The aim of the purposive sampling was to capture the diversity of beliefs and practices of **Filipino** women in the community.

Procedures

The primary investigator developed an unstructured interview guide for the study, which was reviewed and validated by two cultural experts and one consultant. The final interview guide was developed with seven questions (see Figure 1) after revisions were made according to the feedback received during the review.

The study was approved by the affiliated university's institutional review board. Each focus group began with the introduction of the roles of the primary investigator and the moderator, the purpose of the study, and a review of the guidelines for participation. Written informed consent was obtained. Each focus group session was recorded on audiotape (with permission obtained at the beginning of the session), and field notes were taken to document additional comments, facial

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1. Would you please tell us about your experience (e.g., yourself, family members, friends) with breast cancer?
 2. What does breast cancer screening mean to you?
 3. What are your breast cancer screening practices in your own country?
 4. What are your breast cancer screening practices when you come to the United States?
 5. For women like you, what makes/motivates you to do breast self-examination/clinical examination/mammography?
 6. For women like yourself, what makes it difficult for you to do breast self-examination/clinical examination/mammography?
 7. In your view, what are some suggestions that would make it easier for you to do regular breast self-examination/clinical examination/mammography?
-

Figure 1. Questions Used in the Focus Groups

expressions, and interactions among participants. During the sessions, the participants were encouraged to ask questions, and additional questions were posed to clarify responses. Each session lasted 90 minutes to two hours and allowed discussions to be completed. Participants received \$25 gift certificates as incentives, and refreshments were served.

Data Analysis

Audiotapes were transcribed and verified before data analysis. Verbatim transcripts of audiotapes and field notes served as the primary data for analysis. Data were analyzed by identifying and organizing themes in the text, as recommended by Morgan and Kreuger (1998). The two authors independently reviewed each transcript, coded each line of the transcripts, and analyzed for themes based on the questions asked. The moderator's notes were used to gain more understanding and assist in interpreting the women's responses. Next, the two authors met to compare the coding results, discuss emerging themes, and clarify differences and resolutions for inconsistencies. Consensus was reached about the categories under each theme, and decisions were made about what comments fit into each category. Concepts that were salient and repeated in the text were identified and kept in preliminary data analysis. To validate the findings from the first two focus group meetings, a preliminary summary was prepared and discussed with the participants in the third focus group and with a key community informant who was familiar with the issues of **Filipino** women. After the third focus group meeting, major themes discovered in the final data analysis were presented, with quotations from the transcripts supporting the themes.

Results

Sample

The final sample included 11 women with a mean age of 56.9 years ($SD = 10.4$ years, range = 45–80 years (see Table 1). Most women (82%) in the sample were married, and two were single. All of the participants were born in the

Table 1. Demographic Characteristics of the Participants

Characteristic	n	%
Age (years)		
41–50	4	36
51–60	4	36
61–70	2	18
> 70	1	9
Marital status		
Married	9	82
Unmarried	2	18
Occupation		
Health-related profession	4	36
Sales and industry	4	36
Housewife	2	18
Education	1	9
Years residing in the United States		
< 10	5	45
10–20	2	18
> 20	4	36

N = 11

Note. Because of rounding, percentages may not total 100.

Philippines, and the average length of residence in the United States was 16.1 years ($SD = 12.5$ years, range = one month–34 years. The sample included women with a wide range of occupational backgrounds: four in the healthcare field, four in sales and industry, two housewives, and one in education.

Analysis of the three focus group meetings yielded three major themes: perceptions and experiences with breast cancer, motivators to obtain breast cancer screening, and barriers to obtaining breast cancer screening. Under each theme, categories were created to describe the diverse experiences and beliefs that the women discussed.

Perceptions and Experiences With Breast Cancer

Avoidance of discussing the topic: In the stories the women shared, avoidance was one of the major themes in dealing with a cancer diagnosis in the Filipino culture. Six women with different backgrounds spoke about use of the word *cancer* and how most people did not use it when someone was diagnosed. Often, alternative words such as *tumor*, *lump*, “*the sickness*,” or *mass* were used to refer to a diagnosis (see Table 2). Fear was another major reason for avoiding the word *cancer*. The majority of the women talked about the finality of a diagnosis and that a lot of them assumed the worst. The women told dramatic stories about people they knew who were diagnosed with cancer. Examples of the women's explanations as to why the word *cancer* was not used: “I think it is too final and too brutal to hear the word.” “You know, we avoid the word *cancer*. I think [be]cause it really scares most people. The word *cancer* evokes the real scary.”

Information-sharing process: In the sample of **Filipino** women, six of 11 women had relatives diagnosed with breast cancer or breast-related benign diseases, and one woman reported having a personal diagnosis of breast cancer and another having a lump in her breast. The **Filipino** women described

Table 2. Participants' Perceptions and Experiences Regarding Breast Cancer

Theme	Examples
Avoidance	Did not talk about it (cancer) The word <i>cancer</i> was never mentioned. Avoid the word <i>cancer</i> . Refer to cancer as <i>sickness</i> . Refer to cancer as <i>lump</i> or <i>mass</i> . It's OK to use <i>tumor</i> instead of <i>cancer</i> .
Fear	Afraid of hearing the word It is too final and too brutal to hear the word. The word <i>cancer</i> evokes the really scary.
Information-sharing process	The word <i>cancer</i> is really shock on us. Not feel comfortable and am waiting the appropriate time Want to talk to her about it (cancer), but I haven't given an opportunity. Family members or doctors reluctant to share information to patients; make sure patients can handle it. You don't tell the person.

Author: Are these direct quotes? If not, I'd like to edit them. If so, we need to put them in quotation marks.

the process of bringing up the diagnoses of breast cancer to their relatives or friends as being silent or delayed in their personal experiences [Author: This sentence doesn't make sense. Please clarify.]. A participant who was a survivor said that her diagnosis was malignant but that her relatives withheld the information from her. Other participants also reported that their relatives or friends with breast cancer were not told about their cancer diagnoses until much later in treatment or until they completed treatment. For example, one woman talked about her cousin, who still resided in the Philippines, being diagnosed with breast cancer. The family decided to withhold the information from the woman. Radiation therapy was prescribed, and the woman complied with the treatment because she thought it was preventive, not curative. During the participant's description, she spoke about a doctor's decision whether to tell the patient about the diagnosis, an action that had a lot to do with how the physician believed the patient would handle it. When the focus group participant went home to visit her family, the word *cancer* was never mentioned.

Motivators to Obtain Breast Cancer Screening

Subjects expressed different but related perceptions that motivated them to perform breast cancer screening. The perceptions were categorized as family support, recommendations from familiar physicians, health insurance reinforcement, and personal attributes (see Table 3).

Family support: Participants reported that family members served as major sources of information about breast cancer and other topics related to health and diseases. Participants often received encouragement from family members to undergo certain medical procedures. They spoke about family and friends having a positive impact on the initiation of breast cancer screening activities by advising them to perform mammography screening or insisting that they go to a doctor when symptoms occurred. One woman talked about her brother who was a physician. She explained that he took it upon himself to educate his family and tell them the importance of screening every year. The encouragement was a major force for her to get her yearly mammogram and clinical breast examination and to perform monthly breast self-examination. Another

woman stated that her husband helped to encourage her to see a doctor yearly for a physical so that she could be in the best of health.

Recommendations from familiar physicians: Two common factors identified that facilitated women to participate in screening were working with physicians whom they knew, preferably women, particularly in taking care of their breast health, and physicians who spoke their own language. Women spoke frequently about their healthcare providers in relation to screening and that they were more comfortable with female physicians. One woman explained, "In the breast, I want a female doctor, but in other ways, for example, in some parts or other parts, it may be male, but [with] the breasts, I want a female." Most of the women also preferred a **Filipino** doctor, although it did not seem as important as the need for a female physician. One of the stated advantages of cultural similarity is that a woman could speak her native tongue with a physician, which brings a sense of comfort to the meeting. One woman stated, "He knows our practices, and I told him that it's okay . . . I can talk to him in my own language." Although the physician happened to be male, the statement shows the importance of the provider-patient interaction sharing the same culture and language.

Health insurance reinforcement: Another woman described how her health maintenance organization (HMO) encouraged her to get a mammogram, which helped her to make the decision to get the procedure. One of the ways the HMO motivated its customers to get screened was a penalty method.

"My first mammogram was when I was 35. And that was just a requirement of the health organization, the HMO that I was with. [The HMO] has such good health-maintenance practices with their members that if you didn't go for their screenings, they gonna kick you out of the insurance plan."

Later in the focus group, she admitted that it was the best motivator for her, because she never would have had the mammogram otherwise. Results from the focus groups showed that policy reinforcement from health insurance is one of the economic factors that motivate **Filipino** women to participate in mammography screening in the United States.

Personal attributes: Several personal attributes, including physical symptoms, family history, prior diagnosis, and knowledge about breast cancer, emerged as factors that prompted the women to obtain breast cancer screening. In several instances, the same attribute could serve either as a motivator or barrier to breast cancer screening.

In all three focus group meetings, the women talked about the modalities (e.g., mammography, clinical breast examination) that are promoted in the United States for the early detection and control of breast cancer but were used in the Philippines as mostly diagnostic tools. Therefore, the participants frequently relied on pain, lumps, or other appearance changes to initiate screening tests.

"What motivates me to do a self-exam [is] if I feel something different. Then I compare both sides . . . like by chance, I saw myself in the mirror and see why is that [breast] lower than the other [breast] and then start examining."

In contrast, several participants said that if they did not feel anything different or painful, then they would not get screened.

Table 3. Participants' Reported Motivators to Obtain Breast Cancer Screening

Factor	Examples
Family support	Advice and education from family members Encouragement from husbands
Recommendation from physicians	Female physicians Physicians talking the women's native tongue
Health insurance reinforcement	Avoiding insurance penalties for not getting examinations
Personal attributes	Relying on experiencing symptoms Having a family history Past diagnosis of breast-related disease Health literacy and knowledge about screening

Family history. Focus group participants reported that they performed breast self-examination or other types of screening procedures if they had a family history of breast cancer or had friends with breast cancer. One woman's experience with her sister's diagnosis helped prompt her to get screened. When asked about the motivation, she said, "Because of our history, family history, I want to be sure that I'm not one of them, and I don't want to be one of them." Though family history was a strong motivator, it also was a barrier. One woman said that she did not get screened because she had no family history, even though she was told that people do not have to have family history to get breast cancer.

Prior diagnosis. A prior diagnosis of cancer or a benign tumor was a major motivator for breast cancer screening for several women. One woman who was a survivor said that she continued to get screened because of her history. "Well, maybe it's because of my past experience, because I don't want it to be, to return."

Health literacy. Knowledge of breast cancer screening played an important part in the women's participation in some or all types of breast cancer screening. In particular, those who worked in health care (i.e., nurses and nurses' aids) were more knowledgeable about the three screening modalities and seemed to possess the skills to perform breast self-examination. Most of the women who were nurses or in medical fields continued to perform breast self-examinations after they learned how. The experiences that they had in the healthcare field and the patients they encountered helped them to stay current with screening guidelines and recommendations. One woman explained it simply: "I know what happens if you don't do it."

Barriers to Obtaining Breast Cancer Screening

Through the focus groups, the barriers to breast cancer screening were categorized as a different mindset and healthcare systems in the Philippines regarding early detection, unpleasant experiences with mammography, cultural beliefs, and access difficulties (see Table 4). The reported reasons

in concert affected why participants did not follow recommended breast screening modalities.

Different mindset and healthcare systems in the Philippines regarding early detection: Through the focus groups, the researchers discovered information about a new trend in the Philippines. Women who have immigrated to the United States in the past 10 years have spoken about new advertisements on television or other media in regard to breast cancer screening in the Philippines. Although the ads' messages generally were generic, such as going to see a doctor once a year for a physical, they were a first step in a new direction to educate the public about early detection and prevention in the Philippines.

In all three focus groups, women mentioned that mammograms are a luxury for women in the Philippines because of the expensive out-of-pocket cost and accessibility only in metropolitan cities such as Manila. As a result of the limited availability of mammography, access is a major problem for Filipino women. The circumstances of health education in cancer screening and the unavailability of screening procedures to most of the general public shed a great deal of light on why Filipino women do not seek breast cancer screening such as mammography when they come to the United States. Lack of knowledge about insurance coverage also created a significant barrier for the women in the focus groups. Three of 11 participants did not have medical insurance. The women talked about the financial burden of medical costs and that **Filipino** families often choose to not go to physicians, even when they are sick, because they cannot afford it. One woman who did not have health insurance was asked whether she would get a mammogram if she were sponsored financially; she said yes. In addition, lack of knowledge about health insurance was self-evident when one of the women who recently came to the United States did not find out until a year later that she had insurance coverage for a mammogram.

Participants whose occupations were not health related generally lacked comprehensive and accurate knowledge about the purpose of the three screening modalities (i.e., breast self-examination, clinical breast examination, and mammography) used in the United States. For example, with clinical breast examination, the term was not used to describe the screening modality, and most could only explain about a doctor touching them. One woman could describe the clinical breast examination only as a "doctor ... ummm ... examined me; it was just sort of touching." One of the women said that the doctors "just touch you in case there is ... lump." More specifically, the women lacked knowledge about the necessity and definition of clinical breast examination in breast cancer screening.

In terms of breast self-examination, the women were unfamiliar with the term. Six women had heard of the examination but were not fully aware of all of the components (e.g., technique, frequency) to perform breast self-examination properly. The participants with medical backgrounds who had exposure to various degrees of health education had better awareness of the techniques and frequencies, but some discrepancies existed in the actual application of the screening. Lack of education and confidence with breast self-examination was a reason for some women to not perform it on a monthly basis; one woman expressed that she did not feel that she really knew it. Others spoke about the frequency of their breast self-examinations, which ranged from almost every day to once a month. Most of the women commented that they felt more

Table 4. Participants' Reported Barriers to Breast Cancer Screening

Factor	Examples
Different mindset and healthcare systems	New trend to promote breast cancer screening in the Philippines Mammography is expensive and not affordable. Lack of understanding about the three common screening modalities
Unpleasant experiences with mammography	Discomfort, pain, and uneasiness Screening is associated with having a cancer diagnosis; mammography is a diagnostic tool in the Philippines. Not having time for denial if cancer is found
Cultural beliefs about breast health	Not comfortable being touched or exposing own body Not wanting to talk about breasts
Difficulties in accessing services	Difficult to schedule an examination Forgetfulness Lack of transportation

comfortable with letting a physician examine them because doctors know what to look for in breast tissue. They said that they needed more education about how to do it to feel more comfortable.

Unpleasant experiences with mammography: Focus group participants associated mostly negative feelings with mammography. Five women reported negative reactions related to discomfort, pain, and uneasiness of the examination. One woman said, "To me, I feel that it's demeaning to be pulled and smashed in that part of my body, so I don't like it." Another woman commented, "I think the word *cancer* and pain are associated with the mammogram." The vivid statement shows the negative aspects of mammography.

The women's fear of cancer and how the fear affected their perceptions about breast cancer screening were reflected in several scenarios. One woman's remarks touched on why she responded to breast cancer screening as she did. She stated, "I don't want to know. I am just afraid. I know so many things that happened in health-care-wise cause I work in the hospital." Often, several women spoke about mammograms being associated with already having cancer. One woman said, "When I hear that word [*breast cancer*], it makes me afraid. I'm afraid ... cause once I heard that you go to get a breast cancer screening, it means that I have it." Another woman also made a statement that reinforced a similar mindset: "People at home also do not go, undergo this test, because sometimes if you are thinking about this test, it usually comes out positive. And they think you get the disease because you have the test done." The statement is a great example of the use of mammography in the Philippines as a diagnostic tool instead of a screening tool. One woman spoke of the negative aspect of finding out right away and not having time for a denial period to cope with a diagnosis.

Cultural beliefs about breast health: Culture's unspoken traditions and beliefs caused some of the women to feel uncomfortable with touching or exposing their bodies or talking about their breasts. The length of time since immigrating to the United States did not change women's cultural views about their bodies and comfort levels while addressing topics in breast health. One participant who had resided in the United States for 20 years said, "It is very uncomfortable to discuss any part of the body that's supposed to be covered in clothes." Several women with various lengths of residence in the United States did not feel comfortable showing their bodies to physicians. An explanation from one woman (who had been residing in the United States for nine years) was, "Sometimes our Filipino women are very conservative. They don't want to touch their body. You think if you touch your body it's a sin."

Difficulties accessing services: The women also shared other issues related to their participation in screening, including scheduling, transportation, and community resources. Finding time to schedule appointments for mammography was reported to be a main barrier for women who worked five to six days a week or had busy family schedules. For example, the opportunity for one woman to get time off work during weekday hours was almost impossible. She said that the only day she could go was on Sundays, when doctors' offices and clinics are not open. Forgetfulness also was associated with scheduling problems and not getting any type of breast cancer screening.

Lack of transportation or limitations on driving made going to a physician difficult. One woman could drive only short

distances and was not able to drive herself to visits. This raised another barrier: finding someone to transport her.

Lack of knowledge about agencies in the area to help with medical expenses and resources was a significant barrier for new immigrants. When asked about certain agencies or federal programs for breast and cervical cancer screening that were available, most of the women were unfamiliar with them.

Discussion

Focus groups were useful for gaining insights into the range of views that **Filipino** women held about breast cancer and breast cancer screening. The themes identified in the discussions came from the participants' past experiences in the Philippines and their daily lives in the United States. The themes described in the study have important implications for healthcare professionals to assist and encourage breast cancer screening in their communities. Previous studies in **African [Author: African American?]** and **Hispanic [Author: Hispanic American?]** groups also have shown that clinician recommendation and presence of a symptom are facilitators of breast cancer screening and that lack of cancer screening knowledge, patients' perceptions of good health or absence of symptoms attributable to ill health, and fear of pain from a cancer test are barriers (Ogedegbe et al., 2005). Other studies have reported cultural beliefs such as fatalistic ideas and pessimism linked with cancer held by some minority ethnic groups (Ashing-Giwa & Ganz, 1997; Bailey, Erwin, & Belin, 2000; Champion & Menon, 1997; Glanz, Resch, Lerman, & Rimer, 1996; Lackey, Gates, & Brown, 2001; Phillips, Cohen, & Moses, 1999).

The women in the focus groups held specific views from their Filipino culture about breast cancer and ways to deal with the diagnosis of breast cancer; often, their experiences were closely related to family members. Sensitivities about using the words *cancer* and *breast cancer* need to be addressed. The finding is in accord with findings of Bottorff et al. (1998) regarding beliefs related to breast health practices among southern Asian women in Canada. When healthcare professionals address the related topic with **Filipino** women, they should assess the situation carefully with each individual client and recognize the meaning of breast cancer with attended sensitivity [Author: This sentence is unclear. Please revise.].

Family members who are employed in the medical profession play an important role in helping their families to deal with health issues. The support of significant others such as spouses and healthcare providers was fundamental to women's participation in screening activities.

Study Limitations

The findings of the current study provide important insights regarding the perceptions of **Filipino** women about breast cancer and screening. The findings, however, must be viewed in light of potential limitations of the study. The sample size was relatively small, and the convenience sample focused on women who had immigrated to the United States in the midwestern region, which limits the generalizability of the findings to other groups of **Filipino** women. Future qualitative research is needed to evaluate the generalizability of study findings in other samples with second-generation **Filipino** women who were born in the United States or women who live in other geographic regions of the United States.

In addition, the focus group discussions were conducted on the culturally sensitive topic of breast cancer. Despite the research team's effort to develop a good rapport with the women, the researchers were concerned about some women providing the "right" answers instead of sharing their true views.

Nursing Implications

Elements that serve as facilitators to screening also can become barriers to screening, not only when they are absent but also depending on the perceptions of individuals. For women who are looking for physical changes or signs that they need to be screened, healthcare professionals must recognize the need to educate them about the purpose and importance of early detection in breast cancer even when symptoms are absent. The messages should be tailored when communicating to **Filipino** women that breast cancer screening such as mammography enables women to find cancer at early stages despite the absence of symptoms so they can get early treatment to increase their chances of a longer life expectancy. Culturally appropriate educational interventions need to be developed based on research findings to communicate with intended **Filipino** audiences and consider their cultural views and counter negative thoughts or misconceptions [Author: Poorly worded sentence. Please revise, perhaps splitting into several sentences.]

The findings of the study also suggest that **Filipino** women should be better educated about current recommendations for the three modalities for breast cancer screening and about the skills and knowledge to perform breast self-examination properly. As the researchers found in the focus groups, healthcare education in cancer detection and control has been evolving in the Philippines. In the past, the major focus in public health was on communicable diseases and vaccinations because they were the major health concerns. Cancer screening was not on the priority list for the health departments of the Philippines and so was not emphasized to the public until the late 1990s. For women who are new immigrants, information about available financial alternatives and assistance to participate in screening and other pertinent

information in relation to breast cancer screening should be provided and made available. Focus group participants offered several suggestions about how to educate **Filipino** women about breast cancer screening. Some of the women believed that flyers would help to promote better health in the **Filipino** community. Such flyers could give general information, both in English and Tagalog, about breast cancer, the three types of screening, and the technique of breast self-examination, as well as information about state-assisted breast and cervical cancer programs. The women said that educational sessions for women in their own communities, like those that are provided for blood pressure and diabetes, could help. Radio and television advertisements also were suggested to help reach those in more rural settings.

Cultural beliefs, including barriers to screening, differ among ethnic groups (Miller & Champion, 1997; Wu, West [Author: Brady in reference.], Chen, & Hergert, in press [Author: Update if possible.]). Healthcare professionals should be aware of facilitators and barriers to breast cancer screening among **Filipino** women to plan effective, tailored interventions. Barriers that are constraints to cancer screening for **Filipino** women should be addressed carefully, with consideration for cultural sensitivity. Nurses and other healthcare professionals can provide alternatives to women who have scheduling, transportation, or financial constraints that interfere with their medical care.

Conclusion

The cultural, social, and healthcare-system factors related to breast cancer screening as identified by the **Filipino** women who participated need to be addressed. Nurses and healthcare professionals should be cognizant of such factors to improve the quality of service to **Filipino** women. Instead of translating health education materials into different languages, key strategies include tailoring health education messages to their specific needs and cultural beliefs to empower the women with necessary resources and information.

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SUPPORTING DATA

Table 1. Items with Principal Components Varimax Factor Loadings

	Item	Factor loading
Factor 1 (Pros)	Find breast lumps early	0.78
Eigen value=3.16	Find very small lumps	0.78
Cronbach's alpha = .86	Decrease chances of dying	0.75
	Detect breast cancer cannot find one's self	0.84
	Detect breast cancer cannot find by doctors	0.79
	Not worry as much	0.55
Factor 2 (Cons_logistics)	Don't have insurance	0.61
Eigen value=7.37	Don't know where to get a mammogram	0.81
Cronbach's alpha= .90	Don't have time	0.75
	Difficult to find a transportation	0.85
	Hours are not convenient	0.79
	Waiting time too long	0.75
	Not comfortable speaking English	0.71
Factor 3 (Cons_procedure)	Forget to get a mammogram	0.53
Eigen value=1.73	Afraid to find cancer	0.66
Cronbach's alpha = .80	Uncomfortable taking off clothes	0.79
	Examined by male professionals	0.71
	Painful	0.66
	Unnecessary radiation	0.72
Factor 4 (Cons_lack of cue)	Feel OK or healthy	0.74
Eigen value=1.22	Doctor not recommend it	0.74
Cronbach's alpha = .75		

Table 2 T-scores means and standard deviations of the Pros and Cons subscale and Decisional Balance by Stage of Mammography Adoption

Stage	<i>n</i>	<u>Pros</u>		<u>Cons</u>		<u>Decisional</u>	<u>Balance</u>
		Mean	SD	Mean	SD	mean	SD
Pre-contemplation	15	5.34	13.84	18.89	9.82	-13.56	19.94
Contemplation	63	9.08	10.69	11.96	9.82	-2.88	14.24
Relapse	27	8.50	9.86	11.13	9.13	-2.62	13.79
Action	14	8.07	9.04	13.97	10.05	-5.91	16.92
Maintenance	106	11.92	8.94	6.38	8.67	5.34	13.94

ANOVA results: Pros $F(4, 224)=2.23$, $p=ns$; Cons $F(4,223)=8.98$, $p< .001$; Decisional balance $F(4, 223)=8.22$, $p<.001$